

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Revision of the Commission's Rules to
Ensure Compatibility With Enhanced 911
Emergency Calling Systems

CC Docket No. 94-102

Amendment of Parts 2 and 25 to Implement the
Global Mobile Personal Communications by
Satellite (GMPCS) Memorandum of
Understanding and Arrangements; Petition of the
National Telecommunications and Information
Administration to Amend Part 25 of the
Commission's Rules to Establish Emissions
Limits for Mobile and Portable Earth Stations
Operating in the 1610-1660.5 MHz Band

IB Docket No. 99-67

COMMENTS OF ICO GLOBAL COMMUNICATIONS

ICO Global Communications (Holdings) Limited ("ICO")¹ hereby responds to the further notice of proposed rulemaking in the above-captioned proceeding addressing the application of basic and enhanced 911 (collectively, "E/911") requirements to services such as mobile satellite service ("MSS").²

¹ ICO is the parent of ICO Satellite Services G.P., which is authorized to provide 2 GHz MSS services in the United States.

² *Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling System*, Further Notice of Proposed Rulemaking, FCC 02-326 (Dec. 20, 2002) ("FNPRM"). The comment and reply comment dates were extended to February 18, 2003, and March 11, 2003, respectively. See Public Notice, *Wireless Telecommunications Bureau Extends Deadline for Filing Comments and Reply Comments on the Further Notice of Proposed Rulemaking in CC Docket No. 94-102, IB Docket No. 99-67, FCC 02-326*, DA 03-209 (Jan. 27, 2003). Because of the FCC closing on February 18, 2003, as a result of adverse weather conditions, the comment deadline was extended to February 19, 2003, pursuant to subsections 1.4(e)(1) and (j) of the Commission's rules. See 47 C.F.R. §§ 1.4(e)(1) and (j); see also FCC Public Notice, *FCC Closed February 18, 2003* (Feb. 19, 2003).

INTRODUCTION

ICO applauds the Commission's efforts to adopt E/911 rules that balance the extension of E/911 service benefits to all subscribers and the promotion of telecommunications growth and competition, particularly in nascent markets such as MSS. ICO is committed to providing the types of emergency calling capabilities that MSS customers expect and demand. Because E/911 requirements adopted for terrestrial commercial mobile radio service ("CMRS") providers are not suitable for satellite systems, however, ICO has supported and continues to support the Commission's call center proposal as a workable and sound method for MSS operators to provide 911 service.

At the outset, imposing CMRS E/911 requirements upon MSS is impractical and inconsistent with the Commission's criteria for applying those requirements to particular services. Specifically, as commenters consistently have stressed in earlier filings, inherent structural differences exist between MSS and CMRS systems, which render CMRS E/911 requirements unworkable for MSS systems. The national call center approach bypasses these structural problems, providing a practical method by which MSS carriers can offer a basic emergency calling capability in areas where terrestrial CMRS carriers do not provide coverage of any type. Further, a national call center approach would require only minor modifications to the MSS network and could be implemented using existing MSS handsets. MSS providers, such as Globalstar and Mobile Satellite Ventures Subsidiary LLC ("MSV"), have demonstrated the viability and effectiveness of call centers to handle satellite-based emergency calls. To ensure accuracy and consistency in the provision of emergency calling services through call centers, the Commission should authorize the use of a centralized, national database of Public Safety Access Points ("PSAPs") established and maintained by a private entity or organization.

MSS serves the public interest by providing access to communications in remote areas where few, if any, alternatives, including terrestrial CMRS, exist. Imposing significant costs on MSS providers for constructing and retrofitting networks in order to satisfy CMRS E/911 requirements cannot be justified in view of the relatively small number of 911 calls placed by MSS subscribers and the feasibility of the national call center approach. Rather than jeopardize widespread MSS deployment by imposing costly new technical requirements, the Commission should support reasonably achievable standards, such as the call center approach, for MSS systems.

I. CMRS E/911 REQUIREMENTS ARE UNWORKABLE FOR MSS SYSTEMS

Based upon its general authority under Section 1 of the Communications Act of 1934, as amended, to “promot[e] safety of life and property through the use of wire and radio communication,”³ the Commission has developed criteria for analyzing the applicability of E/911 requirements to wireless services.⁴ Specifically, the Commission has analyzed wireless services in terms of whether: (1) the service provides real-time, two-way voice service that is interconnected to the public switched telephone network (“PSTN”); (2) subscribers have a reasonable expectation of access to 911 and E911 services; (3) the service competes with traditional CMRS or wireline local exchange services; and (4) it is technically and operationally feasible for the service or device to

³ 47 U.S.C. § 151, *quoted in Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Notice of Proposed Rulemaking, 9 FCC Rcd 6170, 6171-72 ¶ 7 (1994).

⁴ *Revision of the Commission’s Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems*, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676, 18716-18 ¶¶ 80-84 (1996) (“*E911 First Report and Order*”).

support E911.⁵ Applying E/911 requirements to MSS is inconsistent with at least two of these criteria.

First, MSS does not “compete[] with traditional CMRS or wireline local exchange services.”⁶ As the Commission recently concluded:

We also do not believe that MSS, even with [ancillary terrestrial components], will be directly competitive with the terrestrial services offered by CMRS carriers. While there is always some competition on the margin between two mobile voice and data services, the operating, functional, and cost characteristics of MSS with [ancillary terrestrial components] are sufficiently different from CMRS terrestrial services that we do not believe they will be close substitutes for each other for the vast majority of customers.⁷

Not only do terrestrial CMRS and MSS providers serve significantly different markets, but their customers have different expectations of the service that they may receive. Unlike terrestrial CMRS, satellite telephone service is not viewed as a replacement for a consumer’s local wireline or wireless services.

Additionally, as MSS commenters have demonstrated repeatedly, compliance with the CMRS E/911 requirements is not “technically and operationally feasible”⁸ for satellite systems, absent substantial system retrofits that would add significant recurring and non-recurring costs to an already capital-intensive undertaking. The heart of the technical E/911 compliance issue for MSS systems lies in their structural architecture. As the *FNPRM* acknowledges, MSS systems typically utilize a single gateway to interconnect

⁵ *Id.* See also *FNPRM* ¶ 13 (citing *E911 First Report and Order*).

⁶ *FNPRM* ¶ 13.

⁷ *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, FCC 03-15 ¶ 229 (Feb. 10, 2003).

⁸ *FNPRM* ¶ 13.

satellite calls onto the PSTN.⁹ A call originating at the gateway and terminating at a PSAP may be processed by any number of switches along the way. Even if the MSS provider could provide Automatic Number Identification (“ANI”) and Automatic Location Information (“ALI”), this information is typically not routed through the various PSTN switches that process the call.¹⁰

Routing ANI and ALI from the satellite gateway to the PSAP likely would require retrofitting every switch used to carry MSS calls in order to ensure that ANI and ALI are not dropped or lost at switches that are not currently equipped to read or to transmit the information. Because PSAPs are located throughout the United States, however, such retrofitting could implicate the entire U.S. PSTN. These switches are not within the control of MSS providers. The only fail-safe solution that would solve the ANI/ALI routing problem would be to arrange for dedicated lines from the gateway to each and every one of the 10,000-plus PSAPs in the U.S. Based upon figures provided in Globalstar’s comments responding to the *Public Notice*, the *monthly* trunking costs for interconnecting with the thousands of PSAP jurisdictions from a single point in the U.S. would likely total several hundred thousand dollars.¹¹

Terrestrial CMRS providers, in contrast, do not face the same technical hurdles and costs to interconnect with PSAPs because their networks are inherently local. Specifically,

⁹ See *id.* ¶¶ 19, 24, and n.101.

¹⁰ With respect to the questions posed in the *FNPRM* concerning ANI and ALI, ICO incorporates by reference the technical discussions associated with ALI and ANI outlined in its comments and reply comments responding to the 2000 *Public Notice*. ICO acknowledges that the costs for addressing these issues may have decreased since that time. The benefit of addressing these topics, however, is moot unless the problem of routing the information over the PSTN to PSAPs – which involves facilities that are completely outside the control of MSS providers – can be addressed.

¹¹ See Joint Supplemental Comments of Globalstar USA, Inc., Globalstar, L.P., L/Q Licensee, Inc., and Qualcomm Incorporated, IB Docket No. 99-67 at 17, n.45 (Feb. 20, 2001).

terrestrial CMRS systems typically deploy cell-by-cell architecture to achieve coverage over a regional/local area through mass deployment of base stations/transmission towers and receivers.¹² Whether it is processing a basic or enhanced 911 call, the terrestrial cell tower receiving the 911 CMRS call need only route the call to the PSAP closest to that stationary tower's known coordinates. Accordingly, the CMRS carrier typically needs only to pass ALI and ANI from the switch serving the tower to the central office switch that serves the local PSAP (assuming that the switch serving the tower and the PSAP are not one and the same), with no other switches in between.

Because the tower-to-PSAP connection is essentially point-to-point, passing along the ANI and ALI of a CMRS 911 call presents a relatively manageable technical undertaking. Moreover, because the CMRS 911 tower-to-PSAP connections are virtually always local calls, the connection charges for the terrestrial CMRS provider are exponentially lower than the private line charges faced by MSS providers.

Finally, the Commission only recently authorized MSS licensees to integrate ancillary terrestrial components ("ATCs") into their MSS networks. MSS providers will need additional time to design their ATC systems consistent with the Commission's service and technical rules. It is, therefore, premature to address E/911 requirements for ATC at this time.

II. PROVIDING EMERGENCY CALLING CAPABILITIES THROUGH NATIONAL CALL CENTERS IS WORKABLE FOR MSS SYSTEMS

As an alternative to the unworkable CMRS E/911 requirements, ICO supports the Commission's proposal that MSS operators providing real-time, two-way, switched voice

¹² To the extent that a terrestrial CMRS provider offers nationwide service, national coverage is ultimately a network of interconnected local/regional systems.

service that is interconnected with the PSTN establish national call centers through which all subscriber emergency calls would be processed.¹³ The emergency calling systems established by Globalstar and MSV may serve as models.¹⁴

Under the national call center approaches employed by Globalstar and MSV, call center operators route incoming MSS emergency calls to the proper PSAP based upon the information provided to them by the caller. In most cases, the call center operator should be able to obtain enough information from the caller regarding the caller's location to route the call to the proper PSAP for that location. In addition, MSS providers should be permitted to use their inherent system capability to determine the caller's location to support this process.¹⁵ Implementation of the national call center approach should not present substantial difficulties with respect to the MSS network because all of the MSS provider's 911 calls would be connected by a single trunk from the provider's gateway to the national call center. Calls from the call centers to the PSAPs would be handled as standard wireline calls over the PSTN.

As the *FNPRM* acknowledges, the effectiveness and efficiency of a national call center approach ultimately depends upon the accuracy and completeness of the PSAP database.¹⁶ The Commission suggests that carriers have an obligation to obtain or create a

¹³ *FNPRM* ¶ 22.

¹⁴ The Globalstar system routes 911 calls to a single call center in Canada where trained operators ask the caller's phone number and request the caller's location. The MSV system routes 911 calls to a call center in Reston, Virginia, where the operator requests the caller's phone number and location. *Id.* ¶¶ 20-21.

¹⁵ Globalstar's system design apparently is able to discern the handset location coordinates within 10 kilometers, 90 percent of the time, and display such information on the handset. The call center operator instructs the 911 caller how to obtain his/her latitude and longitude coordinates from the handset. *Id.*

¹⁶ *Id.* ¶ 24.

national PSAP database.¹⁷ The sheer scope of such an undertaking, however, for an inherently national and global service such as MSS – *i.e.*, tracking down, collating, and maintaining the identity, location, and contact details of each and every PSAP in every state, county and local jurisdiction across the United States – is beyond the capabilities of any individual MSS carrier. Although various organizations offer PSAP databases, ICO is not aware of any database that is reasonably accurate and complete.

In the interest of achieving the greatest degree of accuracy for MSS emergency calls, ICO proposes that the Commission designate a private entity or organization that would administer a centralized, national registry of PSAPs.¹⁸ The national database would provide a simple means by which PSAPs could ensure that they will be included on the list used by every MSS call center. In addition, the national database should include contact information for state or local emergency authorities in remote areas where no PSAP has been designated. MSS providers should not be required to bear the enormous burden of identifying state or local emergency authorities for non-PSAP areas throughout the United States.

III. THE INCREMENTAL BENEFITS OF IMPOSING CMRS E/911 REQUIREMENTS ON MSS PROVIDERS CANNOT BE JUSTIFIED GIVEN THE COSTS

Prior to the advent of MSS services, areas in the U.S. that were geographically remote or otherwise unserved by wireline or terrestrial CMRS services had extremely limited access to communications, even for health and safety purposes, and these services were prohibitively expensive for use by average citizens. MSS systems “promot[e] safety

¹⁷ *Id.*

¹⁸ There appears to be a number of organizations qualified to administer a national PSAP database, such as the National Emergency Number Association.

of life and property” by making it possible to interconnect with the PSTN in all areas throughout the United States and around the world. MSS providers are bringing to these unserved areas the added benefits of a basic emergency calling capability through the national call center approach. MSS providers are in agreement with the Commission on the importance of providing an emergency calling service, but that service must be developed and configured based upon the unique architectural characteristics of satellite system networks rather than wireline or terrestrial CMRS networks.

The incremental benefits that may be achieved through strict compliance with E/911 requirements by MSS cannot be justified in light of the costs. As stated above, Globalstar estimated the *monthly* trunking costs for interconnecting with the thousands of PSAP jurisdictions would likely amount to several hundred thousand dollars.¹⁹ According to the *FNPRM*, Globalstar receives on average 12 emergency 911 calls per month, which means implementation of just the ANI portion of E/911 for Globalstar to accommodate these dozen or so monthly calls would cost it many tens of thousands of dollars per 911 call. Moreover, the costs of implementing E/911 for MSS would be spread over a relatively small base of subscribers,²⁰ making MSS less attractive at the precise moment that it needs to gain a foothold in the market. Given the alternative of the national call center approach, which can be implemented at greatly reduced costs, there is no

¹⁹ *FNPRM* ¶¶ 21-27.

²⁰ Globalstar, for example, reports 66,000 commercial customers in the U.S. as of 2001. In contrast, the terrestrial CMRS subscribership stood at 44 million at the time CMRS E/911 requirements were adopted in 1996, doubled to 86 million by the end of 1999, and almost tripled to 128.5 million by the end of 2001. See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Second Report, 12 FCC Rcd 11266 (1997); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Fifth Report, 15 FCC Rcd 17660, 17745 (2000); *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, Seventh Report, 17 FCC Rcd 12985, 12989-90 (2002).

justification for mandating MSS compliance with the terrestrial CMRS E/911 requirements.

CONCLUSION

MSS providers should be permitted to meet their emergency calling obligations through the national call center approach. In addition, the Commission should designate a private entity or organization that will administer a centralized, national registry of PSAPs. The CMRS E/911 requirements are fundamentally unworkable for satellite systems. Moreover, the costs to MSS providers and subscribers for meeting the letter of the CMRS E/911 requirements cannot be justified in light of the reasonably achievable alternative of the national call center approach. Finally, the Commission should postpone addressing E/911 issues with respect to ATC until MSS providers have had sufficient time to design and develop ATC systems in compliance with the Commission's new service and technical rules for those systems.

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CERTIFICATE OF SERVICE

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